Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Nodal Gap of Heavily Under-doped Bi2201 Revealed by VUV Laser ARPES YINGYING PENG, JIANQIAO MENG, The Institute of Physics, Chinese Academy of Sciences, CHANGTIAN CHEN, ZUYAN XU, Technical Institute of Physics and Chemistry, Chinese Academy of Science, XINGJIANG ZHOU, The Institute of Physics, Chinese Academy of Sciences — We have carried out VUV laser-based angle-resolved photoemission (ARPES) on heavily under-doped $Bi_2(Sr_{2-x}La_x)CuO_{6+\delta}$ (abbreviated as La-Bi2201) samples with different dopings from antiferromagnetic insulators to superconductors. We find that, along the $(0,0) - (\pi,\pi)$ nodal direction, there is a gap opening that is strongly dependent on the hole doping level. The momentum and temperature dependence of the gap is investigated and the implication of the observations will be discussed.

Yingying Peng
The Institute of Physics, Chinese Academy of Sciences

Date submitted: 08 Nov 2011 Electronic form version 1.4